AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A device for multiplexing a first stream of data comprising a set of current data frames coming from a mobile telecommunication network with a second stream of data including IP datagrams coming from an Ethernet network, said data frames having a structure defined by a plurality of time slots, each time slot of a first group of time slots being subdivided into a plurality of information bits carrying a respective communication channel, wherein the multiplexing device comprises:

a compressor adapted to provide a compressed data block representative of various channels;

~~bandwidth assigned for a given transmission link being predetermined,~~ prediction means for predicting available bandwidth, known as the margin, taking account of ~~the~~ a band occupied for the transmission of said compressed data block; and

formatting means for subdividing and inserting at least one section of the IP datagrams in the time slots corresponding to the available bandwidth,

wherein the bandwidth assigned for a given transmission link is predetermined, and

the formatting means determines whether size of a section of the IP datagrams is too large for insertion in the time slots based on the predicted available bandwidth.

2. (previously presented): The device according to claim 1, wherein the multiplexing device further comprises memory means for storing at least one IP datagram to prevent congestion of datagrams caused by short-term variation of the available bandwidth.

3. (currently amended): A device for multiplexing a first stream of data comprising a set of current data frames coming from a mobile telecommunication network with a second stream of data including IP datagrams coming from an Ethernet network, said data frames having a structure defined by a plurality of time slots, each time slot of a first group of time slots being subdivided into a plurality of information bits carrying a respective communication channel, wherein the multiplexing device comprises:

a compressor adapted to provide a compressed data block representative of various channels;

~~bandwidth assigned for a given transmission link being predetermined,~~ prediction means for predicting available bandwidth, known as the margin, taking account of ~~the~~ a band occupied for the transmission of said compressed data block; and

formatting means for subdividing and inserting at least one section of the IP datagrams in the time slots corresponding to the available bandwidth~~.~~,

wherein the compressor comprises:

analyzer means for analyzing at least one channel in an analysis window of the current data frames to determine whether the channel is active or static, an active state being assigned to the channel if a comparison between ~~the~~ a number of frames (N frames), which ~~representing~~ represents a reference pattern, and the corresponding N frames of the analysis window shows a variation in frame

content for at least one of the frames-, a static state being assigned to the channel if all the N reference frames are the same as the current data frames that correspond to the N reference frames, where N is an integer greater than or equal to 1;

extraction means for extracting ~~the~~ a content of active channels of the analysis window as a function of states assigned by said analyzer means;

location means adapted to provide indications of ~~the~~ a location of data content in the current data frames as a function of the states assigned by said analyzer means; and

grouping means for grouping at least one identifier of the data content of a current block~~, of the data content of said block,~~ and of the location of data content within a data block to be sent, and

wherein the bandwidth assigned for a given transmission link is predetermined.

4. (currently amended): A demultiplexing device adapted to demultiplex a compressed data block comprising a compressed block and at least one IP datagram section, wherein the demultiplexing device comprises:

deformatting means for extracting the at least one IP datagram section from a frame comprising data from a mobile telecommunication network and the at least one IP datagram section and concatenating ~~the~~ a plurality of IP datagram sections in order to direct at least one of the plurality of IP datagram sections to an Ethernet network; and

data decompression means for reconstituting active and static channels from the compressed data block.

5. (previously presented): A multiplexing/demultiplexing system comprising:

the multiplexing device according to claim 1; and

a demultiplexing device adapted to demultiplex the compressed data block comprising a compressed block and at least one IP datagram section, wherein the demultiplexing device comprises:

deformatting means for extracting the IP datagram sections and concatenating the IP datagram sections in order to direct them to the Ethernet network; and

data decompression means for reconstituting active and static channels from the compressed data block.

6. (currently amended): A device for multiplexing a first stream of data comprising a set of current data frames coming from a mobile telecommunication network with a second stream of data including IP datagrams coming from an Ethernet network, said data frames having a structure defined by a plurality of time slots, each time slot of a first group of time slots being subdivided into a plurality of information bits carrying a respective communication channel, wherein the multiplexing device comprises:

a compressor adapted to provide a compressed data block representative of various channels;

~~bandwidth assigned for a given transmission link being predetermined,~~ prediction means for predicting available bandwidth, known as the margin, taking account of the band occupied for the transmission of said compressed data block; and

formatting means for subdividing and inserting at least one section of the IP datagrams in the time slots corresponding to the available bandwidth,

wherein said the bandwidth assigned for a given transmission link is predetermined, and the formatting means determines transmission size of IP datagram sections based on negative acknowledgement from said prediction means when the section to be sent is too large.

7. (previously presented): The device according to claim 6, wherein a resizing means resizes the IP datagram sections for transmission upon the negative acknowledgement and adjusts output bit rate to suit the available bandwidth.

8. (previously presented): The device according to claim 2, wherein said memory means rejects the IP datagram sections that cannot be transmitted because of insufficient capacity on the given transmission link.

9. (currently amended): The device according to claim 2, wherein the memory means exclusively stores the IP datagrams.

10. (previously presented): The device according to claim 3, wherein the number N of frames in the reference pattern is an integer greater than 1.

11. (previously presented): The device according to claim 3, wherein the number N of frames in the reference pattern is dynamically determined based on reliability of bandwidth predictions by the prediction means over successive analysis window periods.

12. (previously presented): The device according to claim 1, wherein the compressed data block comprises voice data from the telecommunications network transmitted in frames and wherein the at least one section of the IP datagrams is provided from a different network and is inserted into a frame carrying the voice data.

13. (previously presented): The device according to claim 4, wherein the compressed block comprises voice data from the telecommunications network, wherein the frame received by the demultiplexing device comprises the voice data and at least one section of the IP datagrams, and wherein the deformatting means extract the at least one section of the IP datagrams from the frame comprising the voice data.

14. (currently amended): The method according to claim 1, wherein, when the formatting means determines that the size of the section of the IP ~~datagram~~ datagrams is too large, a source of the IP ~~datagram~~ datagrams is notified to resend data in a smaller size so that ~~it~~ the smaller IP datagram can be inserted into the available bandwidth.

15. (previously presented) The method according to claim 1, wherein the multiplexing device further comprises a prediction unit which uses information, supplied by the compressor, of an available capacity between compressed data blocks to determine the available bandwidth.

16. (previously presented) The method according to claim 6, wherein the negative acknowledgement indicates that an IP datagram was not received.

17. (previously presented) The method according to claim 4, wherein the demultiplexing device further comprises a transmission module that provides the concatenated IP datagram sections to the Ethernet network.

18. (new) The device according to claim 1, wherein the prediction means predicts the available bandwidth over a fixed window of analysis.

19. (new) The device according to claim 1, wherein the predictions means predicts the available bandwidth based on available capacity between consecutive compressed frames.

20. (new) The device according to claim 6, wherein the negative acknowledgement is sent to the mobile telecommunication network and a smaller section of the IP datagram is provided to the multiplexing device.